

REMARKS

The present application was filed on July 23, 2001 with claims 1-29. Claims 18-25 were withdrawn from consideration as being drawn to a non-elected invention. Claims 30 and 31 were added in an Amendment dated September 27, 2002. Claims 2-17, 30 and 31 are pending in the application. In the Office Action dated October 8, 2003, the Examiner: (i) objected to claims 3, 4, 5 and 30 based on informalities; and (ii) rejected claims 2-17, 30 and 31 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,225,674 to Lim et al. (hereinafter "Lim").

In this response, claims 4 and 5 have been amended in a manner which is believed to address the Examiner's objections. Additionally, Applicant traverses the §103(a) rejections. Applicant respectfully requests reconsideration of the present application in view of the above amendments and the following remarks.

Claims 3 and 30 have been objected to based on informalities. Specifically, the Examiner contends that the phrase "the conductive layer reducing an effective lateral resistance of the isolation buried layer to increase an electrical isolation between the first and second circuit sections" set forth in the subject claims "fails to clarify how the conductive layer reduces an effective lateral resistance of the isolation buried layer" (present Office Action; page 2, paragraphs 1 and 4). Applicant respectfully disagrees with this contention. It is well settled law that "[a] patentee is his own lexicographer" (*Canaan Prod., Inc. v. Edward Don & Co.*, 388 F.2d 540, 544, 156 USPQ 295, 298 (7th Cir. 1968)), and that "[a] patentee can choose his own terms and use them as he wishes so long as he remains consistent in their use and makes their meaning reasonably clear" (*Ellipse Corp. v. Ford Motor Co.*, 452 F.2d 163, 167, 171 USPQ 513, 515 (7th Cir. 1971), *cert. denied*, 406 U.S. 948, 173 USPQ 705 (1972)). The Federal Circuit has reiterated this axiom time and again, stating that "an analysis of the specification and prosecution history is important to proper claim construction." *Hormone Research Foundation, Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1563, 15 USPQ2d 1039, 1043 (Fed. Cir. 1990).

Applicant submits that the present specification provides a clear explanation as to how the isolation buried layer is configured to reduce the effective lateral resistance of the buried layer and to increase electrical isolation between circuit sections. For example, the present specification, at page 11, line 27 to page 12, line 26, describes an illustrative embodiment of the invention wherein

the conductive layer is connected to the isolation buried layer “at predetermined points throughout the digital circuit section” (specification; page 12, line 18) to advantageously provide a reduced lateral resistance thereof. Furthermore, the specification clearly describes that the conductive layer not only functions to reduce the effective lateral resistance of the isolation buried layer, but also “serves to collect signals at the surface of the IC . . . and shunt these signals to ground” (specification; page 12, lines 13-14), thereby increasing the isolation between circuit sections. For at least the above reasons, Applicant believes that claims 3 and 30 do not require further clarification. Accordingly, withdrawal of the objection to the subject claims is respectfully solicited.

Claims 2-17, 30 and 31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Lim reference. Specifically, with regard to independent claims 3, 30 and 31, the Examiner contends that Lim discloses all of the elements recited in the subject claims, but acknowledges that Lim fails to teach a conductive layer comprising a plurality of conductive traces intersecting with and connecting to one another to form a net, as explicitly required by claims 3, 30 and 31 (present Office Action, page 4, paragraph 1; page 7, paragraph 2; page 8, paragraph 2). However, the Examiner contends that it would have been obvious to one having ordinary skill in the art at the time the invention was made to form an integrated circuit (IC) having a conductive layer including conductive traces intersecting with one another to form a net “because it depends on the amount of noise that need [sic] to be reduced” (present Office Action; page 4, paragraph 1; page 7, paragraph 2; page 8, paragraph 2). Applicant respectfully disagrees with the Examiner’s contentions.

Applicant submits that claims 3, 30 and 31 are patentable over the prior art of record. As the Examiner correctly acknowledges, Lim fails to disclose an IC having a conductive layer comprising a plurality of conductive traces intersecting with and connecting to one another to form a net, as expressly set forth in the subject claims. Other than making conclusory statements that it would have been obvious for one skilled in the art at the time the invention was made to form an IC having the claimed configuration, the Examiner provides no documentary evidence supporting such rejection. Applicant hereby traverses the Examiner’s use of such conclusory statements and/or general knowledge.

The Federal Circuit has stated that when patentability turns on the question of obviousness, the obviousness determination “must be based on objective evidence of record” and that “this

precedent has been reinforced in myriad decisions, and cannot be dispensed with.” *In re Sang-Su Lee*, 277 F.3d 1338, 1343 (Fed. Cir. 2002). Moreover, the Federal Circuit has stated that “conclusory statements” by an examiner fail to adequately address the factual question of motivation, which is material to patentability and cannot be resolved “on subjective belief and unknown authority.” *Id.* at 1343-1344. When relying on “general knowledge to negate patentability, that knowledge must be articulated and placed on the record.” *Id.* at 1345 (emphasis added).

Furthermore, the Examiner’s stated reasoning in support of such conclusory statements, namely, that “it depends on the amount of noise that need [sic] to be reduced” fails to address a primary motivation for Applicant’s invention. As explicitly set forth in claims 3, 30 and 31, the conductive layer includes a plurality of conductive traces configured so as to reduce a lateral resistance of the isolation buried layer, and such claimed configuration of the conductive layer is in no way dependent on the amount of noise that needs to be reduced in the IC, as suggested by the Examiner. In fact, Applicant asserts that the prior art of record fails to provide any suggestion or motivation at all for modifying the teachings of Lim, which are directed to electrical shielding, to obtain the claimed invention.

It is well settled law that “the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Particular findings must be made as to why one skilled in the art, absent any knowledge of the claimed invention, would have modified the teachings of the prior art in the manner claimed. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). Applicant asserts that the Examiner’s conclusory statements that it would have been obvious to one having skill in the art to modify the teachings of Lim so as to provide a conductive layer comprising a plurality of conductive traces intersecting with and connecting to one another to form a net “because it depends on the amount of noise that need [sic] to be reduced,” do not adequately address the issue of motivation to combine/modify the prior art. Common knowledge and common sense “do not substitute for authority when the law requires authority.” *Lee*, 277 F.3d at 1345.

Since Lim fails to teach or suggest any reason to reduce the lateral resistance of the buried layer, Applicant asserts that it would not have been obvious to form a conductive layer on the surface of the IC in the manner claimed. In fact, forming a conductive net over the IC, as recited in claims 3, 30 and 31 of the present invention, may considerably reduce the circuit density of the IC. Therefore, absent a stated justification for doing so, which Lim clearly fails to provide, it would be undesirable to modify Lim so as to form a conductive layer on the surface of the IC comprising a plurality of conductive traces, the conductive traces intersecting with and connecting to one another to form a net, as required by the subject claims.

With regard to claim 3, Applicant further submits that this claim requires that the conductive layer be coupled to the isolation buried layer “at a plurality of points spaced throughout the buried layer.” Applicant reiterates the arguments set forth in the previous response dated April 16, 2003 that the Lim reference fails to teach or suggest this limitation. Rather, as shown in FIG. 2, Lim clearly discloses deep trenches (33 or 38) filled with P+ doped polysilicon material forming an isolation ring surrounding, and in electrical contact with, a periphery of the corresponding buried layer (12 or 13, respectively) (Lim; column 3, lines 62-64; column 4, lines 6-10). While Lim may disclose a silicide layer (112) “formed on the exposed portions of trench fill polysilicon 33 and 38” (Lim; column 8, lines 23-25), Lim fails to teach or suggest that the buried layer is coupled to a conductive layer on the upper surface of the IC at a plurality of points spaced throughout the buried layer, as required by the claimed invention.

Even assuming, *arguendo*, that the silicide layer (112) disclosed in Lim can be analogized to the conductive layer on the surface of the IC, and assuming further that the buried layer (12) in Lim is coupled to the conductive layer via the polysilicon isolation ring (33), Applicant submits that the isolation ring taught by Lim is only in electrical contact with, at most, an edge of the buried layer, and not coupled to the buried layer at multiple points spaced throughout the buried layer. Thus, a lateral (i.e., sheet) resistance across the buried layer, e.g., between a center and an edge of the buried layer, in Lim is not significantly reduced. Moreover, the ring structure connected along the edge (i.e., periphery) of the buried layer disclosed in Lim cannot, by definition, be connected to the buried layer at a plurality of points spaced throughout the buried layer, as required by the claimed invention.

For at least the above reasons, Applicant submits that claims 3, 30 and 31 are patentable over the prior art. Accordingly, favorable reconsideration and allowance of these claims are respectfully requested.

With regard to claims 2 and 4-17, which depend from claim 30, Applicant respectfully asserts that these claims are also patentable over the prior art by virtue of their dependency from claim 30, which is believed to be patentable for at least the reasons set forth above. Moreover, one or more of these claims define additional patentable subject matter in their own right. For example, claim 4 further defines the conductive net as including “a plurality of holes therein, at least a portion of the first circuit section being formed in one or more holes in the net.” Likewise, claim 5 further defines the conductive net as overlaying at least a portion of the first circuit section. Applicant submits that these claimed features are not taught or suggested by the prior art of record.

With regard to claims 4 and 5, the Examiner acknowledges that such features are not disclosed in Lim, but makes a general statement that “[i]t would have been obvious to one skilled in the art at the time the invention was made” to include such features “because it depends on the amount of noise that need [sic] to be reduced” (present Office Action; page 4, paragraphs 2 and 3). Applicant respectfully traverses the Examiner’s use of conclusory statements in rejecting the subject claims. As previously stated, the use of conclusory statements by an examiner fails to adequately address the factual question of motivation, which is material to patentability and cannot be resolved on subjective belief and unknown authority. Consequently, when relying on “general knowledge” to negate patentability, that knowledge must be articulated and placed on the record.

For at least the above reasons, Applicant submits that claims 2 and 4-17 are patentable over the prior art of record, not merely by virtue of their dependency from claim 30, but also in their own right. Accordingly, favorable reconsideration and allowance of these claims are respectfully solicited.

Application Serial No. 09/911,035

In view of the foregoing, Applicant believes that claims 2-17, 30 and 31 are in condition for allowance, and respectfully requests withdrawal of the §103(a) rejections.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Wayne L. Ellenbogen", with a long horizontal flourish extending to the right.

Date: January 8, 2004

Wayne L. Ellenbogen  
Attorney for Applicant(s)  
Reg. No. 43,602  
Ryan, Mason & Lewis, LLP  
90 Forest Avenue  
Locust Valley, NY 11560  
(516) 759-7662